

REMARKS

This application has been reviewed in light of the Office Action dated June 11, 2003. Claims 1-30 remain pending in this application. Claim 1 is the sole independent claim. Claims 5-17, 20, 23-26 and 30 have been amended to even further clarify the claimed subject matter. Claims 31-46 have been cancelled without prejudice or disclaimer of the subject matter therein. Favorable reconsideration is requested.

The specification has been amended as to matters of form, as required in the Office Action.

Claims 1-30 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,017,259 (Motoi et al.) in view of U.S. Patent No. 5,564,958 (Itoh et al.)

As amended, independent Claim 1 is directed to a method for manufacturing an image displaying apparatus, comprising a step for disposing a substrate, upon which an electrical conductor and a wiring connected to the conductor are formed, on a support, disposing a container on the substrate to cover the conductor with the container except for part of the wiring, setting the container into a desired atmosphere and applying a voltage to the conductor through the part of the wiring, to thereby form at least one electron-emitting device at a part of the conductor to produce an electron source substrate. The method also comprises a step preparing a phosphor substrate on which a phosphor emitting light responsive to an irradiation with an electron emitted from the electron emitting device is arranged, disposing the electron source substrate and the phosphor substrate within the vacuum atmosphere, and a step carrying under a vacuum atmosphere one or both of the electron source substrate and phosphor substrate into the vacuum

atmosphere in a gettering process chamber and subjecting to a gettering process only one substrate carried therein, or one or both of the substrates carried therein. After the gettering process, the electron source substrate and the phosphor substrate are carried in a seal-bonding process chamber and subjected to heat seal-bonding in an opposing state.

At col. 16, lines 36-45, Motoi et al. refers to Figures 8, which discloses a substrate 1 placed in a vacuum chamber 11 and a power source 13 for applying a device voltage V_f to the device. Additionally, at col. 20, lines 12-16, Motoi et al. discloses in Figures 12A and 12B a precipitation or printing technique for applying a fluorescent material on glass substrate 33 wherein an ordinary metal back is arranged on the inner surface of a fluorescent film 34. Further, at col.20, lines 16-27, Motoi et al. refers to a metal back 35 which enhances the luminance of the display panel by causing the rays of light emitted from the fluorescent bodies and directed to the inside of the envelope to turn back toward the face plate 36 to use it as an electrode for applying an accelerating voltage to electron beams and to protect the fluorescent bodies against damages that might occur when negative ions generated inside the envelope collide with them.

At col. 21, lines 38-45, Motoi et al. refers to Fig. 13 which discloses that envelope 37 of the image-forming apparatus 51 is evacuated by way of the exhaust pipe 52 using an oil free exhaust system 55 typically comprising an ion pump and a sorption pump, while heating the inside to 80° to 250°C and maintaining the temperature level, until the atmosphere in the inside is reduced to a sufficient degree of vacuum containing organic substances to a very low concentration, when it is hermetically sealed by heating and melting the exhaust pipe. Additionally, at col. 21, lines 45-47, Motoi et al. discloses conducting a gettering process after the envelope is sealed.

According to Motoi et al., an electron-emitting device that comprises a substrate, a pair of device electrodes, an electroconductive film and an electron-emitting region is placed within a vacuum chamber 11 (see, e.g., Fig 8). However, nothing in Motoi et al. would teach or suggest disposing a container on a substrate to cover a conductor with the container except for a part of a wiring connected to the conductor, as recited in Claim 1, or applying a voltage to the conductor through the part of the wiring not covered by the container, as recited in that claim.

Furthermore, Motoi et al. discloses that a gettering process may be conducted to maintain the achieved degree of vacuum in the inside of the envelope, after it is sealed (see, e.g., col. 21, lines 38-47). However, nothing in Motoi et al. would teach or suggest that after a gettering process, an electron source substrate and a phosphor substrate are carried in a vacuum atmosphere in a seal-bonding process chamber and heat seal-bonded in an opposing state, as recited in Claim 1.

Itoh et al. is cited in the Office Action for teaching in Figure 1 an envelope, as well as a cathode substrate and an anode substrate each received in the envelope and placed in chamber 1 and then the evacuation tube of each of the display devices 2 is connected to each of the heads 3. Prior to those steps, a cathode substrate and an anode substrate are sealedly joined (col. 3, line 65 to col. 4, line 5). Additionally, Itoh et al. also discloses in Figure 1 introducing a reducing gas and evacuating the reducing gas. However, Itoh et al. is not seen to teach or suggest that after a gettering process an electron source substrate and a phosphor substrate are carried in the vacuum atmosphere in a seal-bonding process chamber and subjected to heat seal-bonding in an opposing state, as recited in Claim 1.

For these reasons, even if Motoi et al. and Itoh et al. were to be combined in the manner proposed by the Examiner (assuming such a combination would even be permissible), the resulting combination also would not teach or suggest the foregoing feature of Claim 1. Accordingly, Claim 1 is deemed clearly patentable over those references, whether considered separately or in combination.

A review of the other art of record has failed to reveal anything that, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as applied against the independent claims herein. Therefore, those claims are respectfully submitted to be patentable over the art of record.

The other rejected claims in this application depend from Claim 1 discussed above, and, therefore, are submitted to be patentable for at least the same reasons as is Claim 1. Since each dependent claim is also deemed to define an additional aspect of the invention, however, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and the allowance of the present application.

No petition to extend the time for response to the Office Action is deemed necessary for the present Amendment. If, however, such a petition is required to make this Amendment timely filed, then this paper should be considered such a petition and the Commissioner is authorized to charge the requisite petition fee to Deposit Account 06-1205.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100 or by facsimile at (212) 218-2200. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



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